



Sheritt Gordon Mines Limited
1972 Annual Report

Annual Meeting

2:30 p.m., Wednesday, April 25, 1973

Commerce Hall in Commerce Court

Toronto, Ontario



Sherritt Gordon Mines Limited • 1972 Annual Report



Our new Ruttan copper-zinc mine will commence production in the second quarter of 1973. This shows the start of the open pit with ore ready for blasting.

1972 at a glance	1972	1971
Nickel sales – pounds	20,414,000	14,587,000
Copper sales – pounds	41,684,000	60,432,000
Fertilizer sales – tons	353,000	356,000
Revenue from sales	\$72,861,000	\$73,958,000
Net earnings before extraordinary items	\$ 5,091,000	\$ 8,767,000
– per share	\$.40	\$.73
Net earnings for the year	\$ 2,307,000	\$ 7,497,000
– per share	\$.18	\$.62
Dividends per share	\$.50	\$.60

Directors

Peter A. Cain	Vice-President, Mining
W. E. P. DeRoche	Chairman of the Board Partner, Blake, Cassels & Graydon
Edward L. Donegan	Partner, Blake, Cassels & Graydon
Richard D. Ellett	Vice-President, Exploration, Newmont Mining Corporation
V. N. Mackiw	Executive Vice-President
Plato Malozemoff	President and Chairman of the Board, Newmont Mining Corporation
David O. Pearce	Vice-President, Operations, Newmont Mining Corporation
David D. Thomas	President and Chief Executive Officer
J. E. Thompson	Executive Vice-President, Newmont Mining Corporation

Officers

W. E. P. DeRoche	Chairman of the Board
David D. Thomas	President and Chief Executive Officer
V. N. Mackiw	Executive Vice-President
R. G. MacKay	Executive Vice-President and Secretary
Peter A. Cain	Vice-President, Mining
Alan E. Gallie	Vice-President, Marketing
Kenneth J. Harvey	Vice-President, Finance
Bruce I. Watson	Treasurer
Kenneth H. Bates	Assistant Vice-President
W. R. Smith	Assistant Secretary

Auditors

Deloitte, Haskins & Sells, Toronto

Solicitors

Blake, Cassels & Graydon, Toronto

Transfer Agents

Canada Permanent Trust Company, Canada
Morgan Guaranty Trust Company of New York

Bankers

Canadian Imperial Bank of Commerce, Toronto
Morgan Guaranty Trust Company of New York

Highlights of 1972

Sales amounted to \$72,861,000 and net earnings, after extraordinary items of \$2,784,000, amounted to \$2,307,000 or 18¢ per share, less than one third of 1971 earnings and the lowest since 1963.

At the Fox Mine, copper production was sharply reduced largely because of difficulties in mining the first high-grade pillar. The Company's total copper production fell to 41,000,000 pounds, just over two thirds of the record 1971 production.

Once again production at the Lynn Lake Mine decreased. However, after losing money for the first three quarters of the year, the mine returned to a marginally profitable basis in the fourth quarter. A large tonnage of uneconomic ore was eliminated from the Lynn Lake ore reserve at year end.

Good progress was made on our new copper-zinc project at Ruttan Mine and startup of the mill should begin early in the second quarter of 1973, a little ahead of schedule. Costs of the project up to the start of production should approximate our \$60,000,000 financing budget.

Nickel production at the Fort Saskatchewan

refinery established a new record of over 37,000,000 pounds.

The Company sold essentially the same amount of fertilizer as it did last year. Moderately higher selling prices enabled us to improve fertilizer profits over the unsatisfactory level of 1971.

We agreed to purchase 10% of the capital stock of Marinduque Mining & Industrial Corporation. Their Surigao Nickel Project on Nonoc Island in the Philippines will be the first commercial plant to use our nickel laterite process. Construction of the mine and refinery is progressing well and nickel production should start in the last half of 1974.

We also hold a 10% interest in P.T. Pacific Nikkel Indonesia which has now developed an ore reserve on Gag Island in the Waigeo area of Irian Barat, Indonesia, of 185,000,000 metric tons of nickel laterite ore averaging about 1.5% nickel. The ore was piloted successfully using our nickel laterite process and a detailed feasibility report was completed. Market surveys and financing arrangements are under active study and a final decision on this project should be made in 1973.

Report of the Directors

To the Shareholders,
Sherritt Gordon Mines Limited.

Your Directors submit this report of your Company's operations for 1972, including the audited financial statements.

The year was generally a disappointing one. A sharp decrease in copper production at the Fox Mine combined with even lower copper sales prices depressed our earnings. At Lynn Lake continued excessive dilution due to the irregularity of the remaining orebodies forced us to write off a substantial portion of the ore reserves and the life of this mine is now limited. On the brighter side, our nickel refinery operated at full capacity, our fertilizer operations improved, and construction at the new Ruttan Mine progressed well. If the current high metal sales prices continue, profits for 1973 will certainly improve.

Sales

(figures in thousands)

	1972	1971
Nickel	20,414 lbs. \$28,001	14,587 lbs. \$22,819
Copper	41,684 lbs. 20,838	60,432 lbs. 30,597
Cobalt	713 lbs. 1,803	679 lbs. 1,694
Zinc	8,986 lbs. 1,675	9,605 lbs. 1,622
Other metal revenue	7,046	5,117
	<u>59,363</u>	<u>61,849</u>
Fertilizers	353 tons 13,498	356 tons 12,109
Total	<u>\$72,861</u>	<u>\$73,958</u>

The consumption of nickel throughout the free world during 1972 came closer to balancing production. The cutback by The International Nickel Company of Canada, Limited in its Canadian production more than offset the supply of new ferronickel which came into the market from the Dominican Republic; this together with a steady improvement in business activity in the United States, and to a lesser degree in Europe and Japan, reduced the surplus supply of nickel.

During September the "producer" price of pure nickel was raised from \$1.33 U.S. per pound to \$1.53 U.S. while the price of nickel in the form of ferronickel and oxide nickel, both used in steel-making, was increased by a lesser amount. This widening of the price differential between pure nickel and the so-called "charge forms" of nickel

is beginning to create a new pattern of nickel consumption.

The "free market" price of pure nickel at the beginning of the year was about \$1.28 U.S. per pound. When the producer price increase was announced in September, the free market price did not increase correspondingly. Thereafter it steadily improved until, at the end of the year, it was about \$1.48 U.S. per pound.

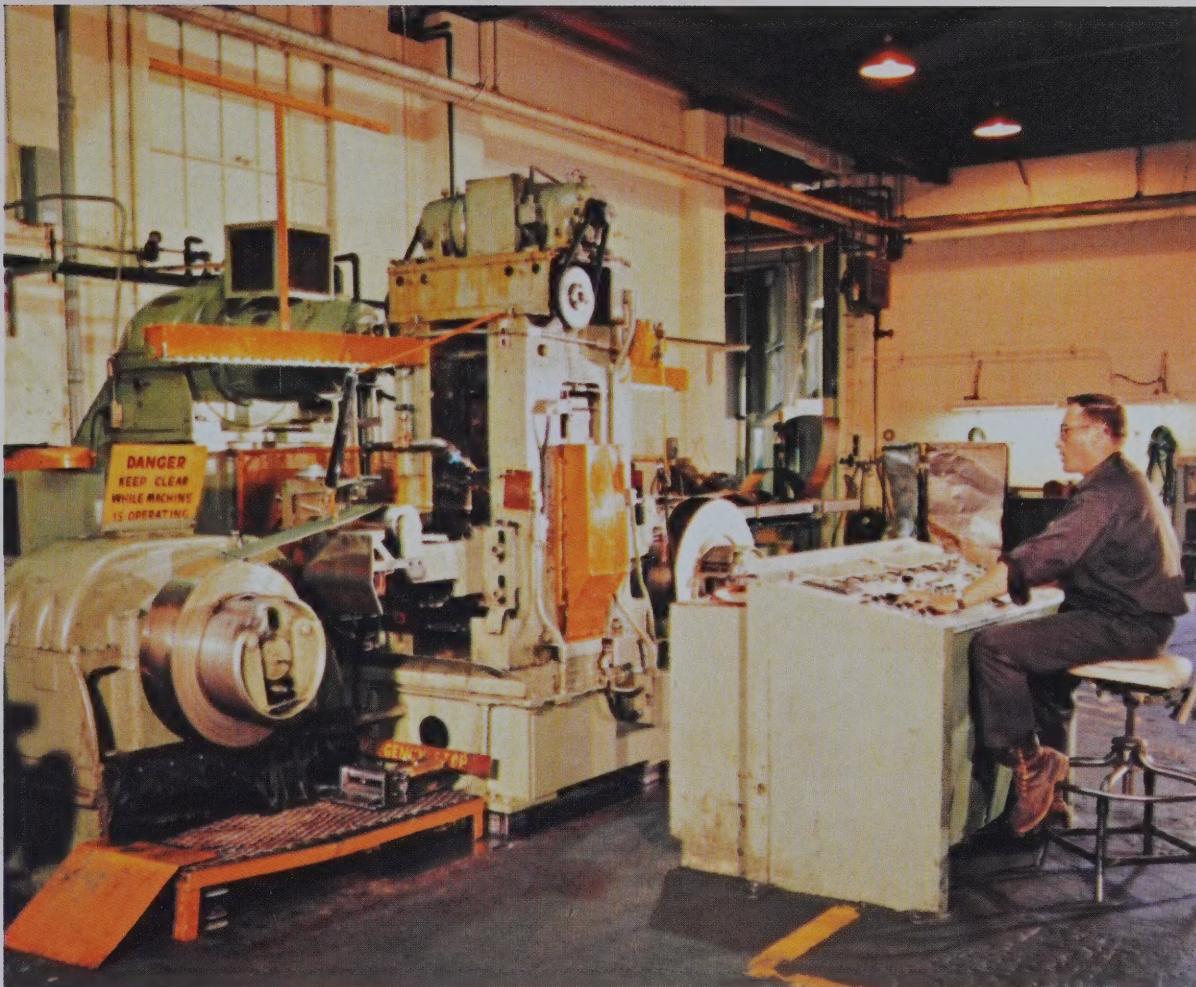
Sherritt's coinage business reached a record level in 1972; orders for over 230,000,000 blanks, tokens and medallions were filled and about 720,000 pounds of pure nickel strip were shipped to two mints which prepare their own blanks. Thirteen separate pure nickel coins were minted on our metal this year for use in six different countries. Besides the production of commemorative medallions, The Sherritt Mint filled five orders for tokens (for toll bridges, etc.), four in cupronickel and one in brass.

Sherritt produces a wide variety of special nickel and cobalt powders, composite powders and rolled products. Sales of these materials in 1972 increased by 50% over 1971.

The average price for all forms of nickel sold during 1972 was \$1.37 per pound compared to \$1.56 in 1971; however, the price improved from \$1.31 in the first quarter of 1972 to \$1.54 during the fourth quarter.

Because of decreased production, the 1972 copper sales of 42,000,000 pounds were almost one third below the record level established in 1971. The copper price on the London Metal Exchange peaked at about 53¢ in mid-March, 1972. It declined steadily thereafter, except for one brief flurry in the late summer, and stabilized at the 45-46¢ level during the last quarter of the year. Since the beginning of 1973, however, the price has advanced steadily upward and passed the 60¢ mark in late February. Increased demand combined with production problems and uncertainties in the international currency situation appear to have virtually wiped out the oversupply of copper which prevailed in the free world throughout 1972.

During the year the Company was able to meet a



Nickel coinage strip is rolled to final gauge in this rolling mill. Sherritt supplies strip to the Royal Canadian Mint for Canada's nickel coins.

request from Mitsubishi Metal Corporation to divert as much copper concentrate as possible from Japan by arranging to have almost one half of our copper production from the Fox Mine treated at the Flin Flon smelter of Hudson Bay Mining and Smelting Co., Limited.

Our zinc sales from the Fox Mine in 1972 were slightly below 1971 because the grade of ore mined was lower and mill recoveries showed only a slight improvement. The Canadian price we received for zinc continued to be strong, increasing from 17¢ per pound at the beginning of the year to 19.5¢ by year end. Mitsubishi Metal Corporation continued to press for increased treatment charges, under its Ruttan zinc purchase contract, to cover the cost of pollution control and currency revaluation in Japan. We have rejected any change in our contract because of revaluation but have agreed to pay them an additional treatment charge of just under 1¢ per pound to cover our share of their increasing cost of environmental control and to help alleviate the general, and unexpected, inflationary pressures on them.

In 1972 the free world's supply of cobalt was sufficient to meet demand. Sales from the GSA stockpile of the United States Government had a

strong stabilizing effect on the cobalt market and provided the metal necessary to balance supply and demand. The demand for cobalt powder and briquettes produced by Sherritt and Outokumpu Oy of Finland was very high. During the year we sold all our production and as agents for Outokumpu sold everything which they allocated to the North American market. At the end of the year Sherritt increased the price of cobalt from \$2.55 U.S. per pound to \$2.70 U.S.

1972 was a good fertilizer year and considerably better than we have experienced for some time. Fertilizer consumption in Western Canada increased in line with the continuing good markets for agricultural products. The demand for phosphate fertilizers was particularly strong and the market for urea, especially in the Pacific Northwest area of the United States, was very good. Prices have finally recovered to about the level of five years ago. The effective sales effort by United Grain Growers, our main distributor on the Prairies, together with the success of our growing dealer organization in Alberta, continued to improve our marketing position in Western Canada. Sherritt could have sold more fertilizer than it was capable of producing.

Production

(figures in thousands)

	1972	1971
Refined Nickel from:		
Lynn Lake concentrate lbs.	8,481	10,938
Purchased feed lbs.	7,661	10,061
Toll refined feed lbs.	21,179	12,112
	<u>37,321</u>	<u>33,111</u>
Recoverable Copper in:		
Fox Mine concentrates lbs.	33,857	51,163
Lynn Lake copper concentrate . . lbs.	4,631	5,753
Refinery copper sulphides from:		
Lynn Lake nickel concentrate . . lbs.	1,226	1,972
Purchased feed lbs.	1,760	1,646
	<u>41,474</u>	<u>60,534</u>
Recoverable Zinc in:		
Fox Mine concentrate lbs.	8,986	9,605
Refined Cobalt from:		
Lynn Lake concentrate lbs.	117	167
Purchased feed lbs.	692	394
	<u>809</u>	<u>561</u>
Fertilizers tons	<u>372</u>	<u>327</u>
Production of fabricated metal products and special metal powders included in the figures shown above:		
Nickel products lbs.	3,234	3,041
Cobalt products lbs.	52	57

Earnings and Dividends

(figures in thousands)

	1972	1971
Revenue from sales	\$72,861	\$73,958
Gross profit from sales	<u>15,062</u>	<u>18,993</u>
Earnings before write-offs and taxes .	12,746	14,647
Depreciation, deferred development and other write-offs	<u>7,563</u>	<u>7,852</u>
Earnings before taxes and extraordinary items	5,183	6,795
Income and mining royalty taxes .	55	(1,995)
Minority interest in net earnings of subsidiaries	37	23
Net earnings before extraordinary items	<u>5,091</u>	<u>8,767</u>
Write-off of portion of Lynn Lake plant and development costs, after tax	3,425	1,270
Capital receipt in connection with a long-term contract	(641)	—
Net earnings for the year	<u>\$ 2,307</u>	<u>\$ 7,497</u>
Earnings per share		
Before extraordinary items	40¢	73¢
For the year	18¢	62¢
Dividends per share	50¢	60¢

The decline in gross profit from sales is attributable mainly to the decrease in production of copper at the Fox Mine which fell from 51,000,000 pounds to 34,000,000 pounds. Although Lynn Lake nickel production decreased and unit costs went up, our total volume of refined nickel sold exceeded production by about 25%. This increase in nickel sales, combined with the higher throughput of toll nickel, improved the profits from our nickel operations. A steady volume of fertilizer sales together with moderately higher prices for most products improved profits over the low level of 1971.

Research expense was sharply reduced since the major project of the year was piloting the nickel laterite ore of P. T. Pacific Nikkel, for which we

were reimbursed. This reduced research cost does not reflect any basic change in our long-term research policy. Interest expense also declined as the final payment on the 1972 Bonds was made and Fox Mine Bonds were reduced. Interest on Ruttan Mine Bonds continues to be capitalized until production commences.

Fox Mine continued to be exempt from tax during 1972 but the three-year tax exemption for this mine ends on September 30, 1973. The large variation in taxes between 1972 and 1971 reflects the improved profitability of the balance of our operations.

The cut-off grade of ore at Lynn Lake was increased and more selective mining methods were established. Consequently a large tonnage previously carried in the ore reserve is no longer considered economic. The extraordinary write-off of \$3,425,000 (27¢ per share) covers the unamortized portion of Lynn Lake plant and development costs, net of tax, attributed to this tonnage.

Also, during the year a payment of \$641,000 (5¢ per share) was received in a transaction involving a long-term contract. No tax has been provided on this extraordinary receipt since it is considered to be not subject to taxes.

Because of the lower level of profits earned by the Company during 1972 the quarterly dividend was reduced in the third and fourth quarters from 15¢ to 10¢ per share. Total dividends paid during the year amounted to 50¢ per share.

Lynn Lake Operations

	1972	1971
Ore milled tons	995,000	1,158,000
. % nickel	.67	.66
. % copper	.38	.41
Nickel in concentrate . . . lbs.	10,355,000	11,650,000
Copper in concentrate . . . lbs.	6,342,000	8,111,000
Cash production cost per ton milled	\$12.32	\$11.61

The Lynn Lake Mine operated at a loss for the first three quarters of the year. Although a shortage of experienced miners and high mine development costs were contributing factors, the main reason for the loss was excessive dilution which reduced the grade of ore mined during the first nine months to .63% nickel. The ore which was being mined by our conventional blasthole stoping method included not only waste rock from the walls of the open stopes but also barren and low-grade material which was interspersed throughout many of these irregular ore zones. An appreciably different ore picture has been obtained by drilling the zones on 25' centres rather than on our standard 50' centres. Most of the remaining ore which can be mined economically is situated in the N and O ore zones. These zones are turning out to



Fox Mine, 28 miles southwest of Lynn Lake, is in its third year of production. Copper and zinc concentrates are trucked 18 miles to the railway and then to smelters in Canada and overseas.

be extremely irregular in shape with some good ore lenses and some barren or waste rock patches. About midway through the year we decided these irregular ore zones could be mined only by cut-and-fill methods. This method of mining will raise the grade of ore but will also increase mine production costs and decrease the number of tons produced. Although the first ore from the cut-and-fill stopes will not be mined until the first quarter of 1973, we effected other modifications during the final quarter of 1972. We shut down a number of low-grade drawpoints, placed the mill on a five-day week, started the crusher and conveyor system on the 3,700' level from the completed Farley decline, and opened up the N2 north orebody using a core-first method of blasthole stoping. The grade of the ore mined in the fourth quarter increased to .82% nickel and this combined with higher nickel prices resulted in marginally profitable operations for the quarter.

As a result of our experience in 1972 and the decision to mine a good deal of the remaining ore by a cut-and-fill method, we have had to make substantial deletions and revisions to the Lynn Lake ore reserves. Since reserve calculations will be a continuing process because of this new

mining approach and the continually fluctuating economic factors, we have concluded that it would be misleading to publish a reserve figure as of any particular date. However, we feel that the extraordinary write-off of over 50% of the remaining value of the unamortized portion of the Lynn Lake plant and development costs is reasonable, taking into account the projected life of the Lynn Lake Mine and the potential salvage value of the plant. The total tons and grade of the remaining ore which can be mined will vary depending on future metal prices and operating costs. Present forecasts indicate that a profitable operation can be maintained for at least the next two or three years. Every effort will be made to keep the Lynn Lake Mine operating. The life of the mine will certainly be extended if underground exploration increases the presently known reserves and if operating costs do not escalate faster than metal prices.

Nevertheless the long-term outlook for the community of Lynn Lake appears quite favourable. It will remain the operating base for Fox Mine and divisional headquarters for Rutan Mine. As the northern terminus of the railway and the highways from the south, it will continue to be important as the gateway to northern development.

Fox Mine Operations

	1972	1971
Ore milled tons	946,000	1,022,000
. % copper	2.14	2.86
. % zinc	1.40	1.54
Copper in concentrate . . lbs.	36,256,000	55,039,000
Zinc in concentrate . . . lbs.	10,898,000	11,318,000
Cash production cost per ton milled.	\$8.08	\$7.34

Copper concentrate production at the Fox Mine was reduced as a result of a substantial over-break in the blasting of the first high-grade pillar on the 2,000' level. This caused an increase in production from stopes with a lower grade of copper and also decreased the tons of ore hoisted. The problem appears to be localized and, with the changes we are making in pillar recovery techniques, we should be able to avoid similar difficulties in the future. While underground mining and development were hampered by a shortage of experienced miners during most of the year, there has been an improvement in recruitment of crews since the end of the year.

In the concentrator, zinc production continued to be unsatisfactory largely because of our inability to produce an acceptable grade of zinc concentrate. In the latter half of the year attempts to improve the zinc recovery and concentrate grade resulted in the copper circuit getting out of balance. Copper recoveries for the year fell off to about 89.5% while zinc recoveries were just over 40%. Extensive research and investigative work is being carried out to improve the operations in the concentrator. Copper recoveries have now returned to the 94% level achieved in 1971 and we are hopeful that a substantial improvement can be effected in zinc recoveries within the next few months.

Provincial Highway 396 from Lynn Lake to the Fox Mine was widened and paved by the Manitoba Department of Highways. The Government and the Company are sharing equally in the cost of this improvement which is a real benefit to our commuting employees.

More detailed underground diamond drilling together with some marginal ore left in the hanging and footwall skins of the mined stopes resulted in a minor reduction in the ore reserve. The ore reserve this year has been reduced by about 250,000 tons of marginal ore in addition to the ore mined. There were no new ore sections added to the reserve during the year. The figures shown below do not include any allowance for dilution.

Ore Reserve	Tons	% Copper	% Zinc
December 31, 1971	14,500,000	1.99	2.35
December 31, 1972	13,300,000	2.01	2.23

Ruttan Mine

Construction work at Ruttan progressed well during the year. We currently estimate that the cost of the project including working capital and interest during construction should stay within our overall financing budget of \$60,000,000.

During the year over 4,000,000 tons of waste rock were broken and hauled from the open pit and nearly 40,000 tons of ore were stockpiled. Operator training in the pit progressed well and by December the rotary drills were operating at about 90% of standard capacity, shovels at 80%, and trucks were hauling in excess of projected standards. Progress on the underground decline was on schedule and a total of 2,760 feet of development was completed.

By year end the service building was almost completely occupied and had permanent heat which greatly facilitated the servicing of open pit equipment. Work in the concentrator was progressing rapidly; electrical and instrumentation schedules are the critical areas. Although permanent heat had not been connected in the secondary crusher building, the rest of the project was fairly well on schedule at the year end except for the coarse ore stockpile which is not essential for initial operation. Since the end of the year the winter weather has been very favourable for construction and tune-up of the concentrator is now expected to start early in the second quarter.

Ore reserves at Ruttan Mine remained unchanged at 51,000,000 tons averaging 1.47% copper and 1.61% zinc without any allowance for dilution.

The upgrading by the Manitoba Government of Provincial Highway 391 from Lynn Lake to Leaf Rapids has not yet been completed. At times, before winter set in, the road was impassable after rainstorms and there were frequent delays and added costs in moving construction material and equipment to the mine site. Under winter conditions the road has been quite satisfactory but we expect there will be numerous problems with the road during the spring break-up period. It is essential that the Manitoba Government contractor finish the upgrading of the road to permit the shipment of concentrate production to the railhead at Lynn Lake on a regular basis.

Much headway was made on the new town of Leaf Rapids located 15 miles west of Ruttan Mine and 65 miles southeast of Lynn Lake. Severe delays caused by the extensive replanning of the town and its facilities by the agencies of the Manitoba Government necessitated a major winter construction program. At the end of the year 120 families of Sherritt employees, representing about 50% of our work force, were living in Leaf Rapids. There were also about 40 other families living in the town. The residences are serviced by a permanent



The townsite of Leaf Rapids was located and designed to meet all the requirements and advantages of a modern northern town.



The Rutan concentrator, nearing completion, will treat 10,000 tons of ore per day and produce both copper and zinc concentrates.

water-treatment plant, pumping station, and sewage-treatment plant designed for a population of 5,000. Permanent hydro and telephone systems were in operation.

Leaf Rapids Corporation has completed plans to build an integrated town centre containing a school, recreational facilities, hotel, library, municipal offices, medical centre and various commercial establishments. Although a start has been made on construction of the centre, at present it is running at least 15 months behind schedule. However, the town has been provided with adequate temporary facilities most of which will be phased out gradually by the third quarter of 1974 when the centre should be completed.

The construction of single and duplex family accommodation was slowed down by very high costs. However, there are now 41 houses, 119 town houses and 72 apartments in various stages of completion. These should be occupied before the end of June and about 200 additional units will be needed by the end of 1973.

During the year extensive negotiations were carried on between the Company and the Manitoba Government concerning some of the high costs of the town development in order that they would not be passed on to the residents in the form of municipal taxes. The Company assumed additional obligations of well over \$1,000,000 as its contribution towards ensuring lower municipal taxes and land costs for all residents of Leaf Rapids. The Province absorbed the balance of the increased costs and agreed that any further increases would not be a burden on the local taxpayers, including the Company.

Outside Exploration

Our outside exploration program continued at close to the same level as last year. Airborne geophysical indications were followed up by ground geophysics and, where warranted, with diamond drilling. The areas covered were again in favourable geological formations, mostly east of Lynn Lake with the majority of the work concentrated in northwestern Ontario. Nothing of commercial value was found. The cost of this exploration work was \$673,000.

Fort Saskatchewan Operations

A record production of over 37,300,000 pounds of refined nickel was achieved at the refinery, exceeding by almost 4% that of the previous record year of 1970. A good supply of Australian nickel concentrate from Western Mining Corporation Limited, together with high-grade matte from Société Le Nickel in New Caledonia, contributed to this high production level which offset the reduced volume of nickel concentrate received from Lynn Lake. As Western Mining starts its new nickel smelter early in 1973 at Kalgoorlie,

Australia, matte will begin to replace the nickel concentrate we receive from this source. This input along with a continuing supply of high-grade matte from Société Le Nickel and a number of other feed sources including Giant Mascot Mines Limited and La Société Minière et d'Exploration Somex Ltée, both in Canada, should maintain a satisfactory production level in 1973.

As part of a continuing plan to supply feed to the refinery, agreements were entered into for the purchase by Sherritt of 50% of the projected nickel concentrate production from the Windarra properties of Poseidon Limited in Western Australia. These agreements, which extend for five years, include an arrangement with Western Mining to have the concentrate converted to nickel matte at their Kalgoorlie nickel smelter for shipment to Fort Saskatchewan for refining. Poseidon's estimated total annual production of about 24,000,000 pounds of nickel was scheduled to come into production during the latter part of 1974.

It should be noted however that, following the recent international currency realignments, the Australian dollar has been revalued upwards by about 19% against the U.S. dollar since mid-December, 1972. As virtually all the nickel sold on the world market is directly related to the U.S. dollar price, Australian nickel producers are currently faced with a sharp decrease in their expected receipts of Australian dollars. It is not yet known whether the currency changes will influence the supply of feed from Australia to the Fort Saskatchewan refinery.

Production of by-product copper sulphide was down from 1971 because of the lower copper content in the refinery feed. On the other hand, cobalt production increased substantially over the previous year, returning to the 800,000 pound level. Unit costs of metal refining were kept under tight control. Ammonia recovery equipment was enlarged in a continuing program of environmental control. Sales increased steadily in special metal products and, in order to keep pace with this encouraging growth, a separate group was set up to manage this section of our operations. Our range of metal specialties now includes nickel and cobalt strip, nickel coinage blanks, coins and medallions, screened nickel and cobalt powders and dispersion-strengthened nickel and nickel alloys. The rolling mill operated at capacity during the year and coinage blanks were produced for Canada, The Netherlands, Hungary, South Africa and Iraq. We received a contract to supply up to 3,600,000 pounds of nickel coinage strip to the Royal Canadian Mint by December 31, 1973 and shipment commenced in October. This will assure a continuing high level of production throughout 1973.



This plant at Fort Saskatchewan produced 100,000 tons of urea in 1972. Urea is a nitrogen fertilizer used extensively by Western Canadian farmers.

As a result of additional new products and processing improvements, production and sales of screened nickel powders, composite powders and dispersion-strengthened materials increased substantially.

The strong demand for fertilizers continued which resulted in a total production of 372,000 tons, about 8% over the previous record. The urea plant operated at close to capacity throughout the year. Production of phosphate fertilizer was also at a high level but was curtailed somewhat by a limited supply of sulphuric acid. A larger supply of acid is under active investigation for our future requirements. Long-term arrangements have been concluded with Vancouver Wharves Limited for the exclusive use of their phosphate rock facilities including a 50,000 ton storage silo to handle the importation of rock required for the production of phosphate fertilizers.

Research and Development

The operation of the laterite pilot plant for P.T. Pacific Nikkel Indonesia was the major activity

during the year. Between February and August we treated 6,400 dry short tons of ore shipped from Gag Island in Indonesia and established the satisfactory metallurgical and cost performances of our process. The data collected from the pilot plant was used in the preparation of the project feasibility study. Laboratory studies continued on the laterite process to further develop and improve it.

We continued our research program with Cominco for the development of a pollution-free hydro-metallurgical process for the recovery of copper, elemental sulphur and other metal values from sulphide concentrates. Phase I involving laboratory studies was completed and testing on a larger scale is currently in progress prior to considering the construction and operation of a pilot plant to establish the commercial viability of the S-C Copper Process.

Other studies on metallurgical process development have continued for the treatment of nickel mattes and zinc concentrates and also for nickel-



Dr. D. J. I. Evans, Sherritt's Director of Research, and P. T. O'Kane, Marinduque's Assistant Vice-President, Surigao Nickel Project, examine a test pit in the nickel laterite orebody on Nonoc Island in the Philippines.

cobalt sulphide by-product of laterite ore processing. No conclusion has been reached yet on the adoption of the Sherritt zinc leach process by Hudson Bay Mining and Smelting Co., Limited.

In the field of special metal products, methods for producing fine grades of powder, including special materials for flame spraying, were studied and improved in order to develop additional markets. Improved quality control procedures were established for the production of dispersion-strengthened nickel sheet and further development work was done on the preparation of dispersion-strengthened nickel-chromium powder.

Capital Expenditures

Capital expenditures in 1972 increased to \$30,963,000, almost three times the amount of 1971 expenditures. As can be seen from the Statement of Source and Use of Funds in the financial section of this report, over 90% of these expenditures were for the construction program at Ruttan Mine. When surface plant construction at Ruttan is completed in the second quarter of 1973, capital expenditures will show a marked decrease.

Personnel

At the year end, the Company had 2,110 employees compared with 1,950 at the end of 1971. Distribution was as follows:

	1972	1971
Lynn Lake, Fox and Ruttan Mines	1,152	982
Fort Saskatchewan and Edmonton	913	925
Toronto	45	43

In the Mining Division, the total number of employees increased as staff was hired for the Ruttan Mine. Extensive training was given to operators for the Ruttan concentrator and pit. Under the contract with Local 5757 of the United Steelworkers of America, due to expire May 31, 1973, a general wage increase of approximately 5.2% became effective on June 1, 1972.

The number of employees decreased slightly at Fort Saskatchewan as a result of continued operating efficiencies. Under the contract with Local 530 of the International Chemical Workers' Union, due to expire April 30, 1973, there was a general wage increase of 4% on May 1, 1972 and a further increase of 3% on November 1, 1972.

The Company moved its head office in late June from 25 King Street West, where it had been located for over 40 years, to Toronto's new Commerce Court complex.

Overseas Interests

In December, 1972, Sherritt agreed to purchase 642,723 treasury common shares of Marinduque Mining & Industrial Corporation at a price of \$10.58 U.S. per share for a total cost of \$6,800,000 U.S. At the same time, Jesus S. Cabarrus, Sr., Chairman of the Board and President of Marinduque, agreed to purchase 113,422 shares at the same price for a total of \$1,200,000 U.S. These stock purchases completed the equity requirements imposed on Marinduque by the lenders financing Marinduque's Surigao Nickel Project in the Philippines. The shares purchased by Sherritt, which will be paid for in four equal instalments from January, 1973 to March, 1974, represent an interest of slightly more than 10% in Marinduque. This new agreement has replaced the previous commitment made by Sherritt in June, 1971 to purchase \$5,000,000 U.S. of Marinduque's common shares. In late January, 1973, the shareholders of Marinduque approved a five-for-four split of the outstanding capital stock which increased our holdings to 803,403 common shares. The design and the construction of the nickel laterite mine and refinery on Nonoc Island, Surigao, are progressing on schedule. By the end of 1972 over three quarters of the engineering work was completed by the contractor. Installation of the mine's off-site facilities, carried out under the direct management of Marinduque, is at an advanced stage. Construction should continue rapidly in 1973 and the refinery is scheduled for startup during the third quarter of 1974.

P.T. Pacific Nikkel Indonesia, a company in which we hold a 10% interest and which is licensed to use our nickel laterite process, has now developed an ore reserve of 185,000,000 metric tons of laterite containing an average of 1.49% nickel and 0.11%

cobalt on Gag Island in the Waigean area of Irian Barat, Indonesia. The Phase II feasibility study included the operation of the laterite pilot plant by Sherritt and an evaluation by an engineering contractor on the preliminary design and cost of the mine, the nickel refinery, and all supporting infrastructure. Results indicated that the most economic commercial production facility would have a capacity of somewhat over 100,000,000 pounds of nickel annually. Market surveys and financing arrangements are currently under active study and a final decision on the project should be made during 1973.

* * *

It is with the deepest regret that we bring to your attention the death last August of Dr. Frank A. Forward. It is no exaggeration to say that, without the tremendous contribution of Dr. Forward, it is unlikely that Sherritt would have achieved its present position in the world of hydrometallurgy. In addition to being an outstanding scientist Dr. Forward was a delightful human being with a host of friends and admirers. He is greatly missed by all who had contact with him, whether in the academic, government or industrial field.

* * *

The Directors welcome this opportunity to thank the employees for their efforts during the year; their hard work and co-operation have made it easier for the Company to counter the mounting pressures facing the mining industry at this time.

On behalf of the Board,



President.

Toronto, Ontario, March 9, 1973.

**SHERRITT GORDON MINES LIMITED** and subsidiary companies

Under the Business Corporations Act (Ontario)

Consolidated Balance Sheet December 31, 1972 (with comparative figures for 1971)

Assets	1972	1971
Current		
Cash, including interest-bearing deposits	\$ 7,954,000	\$ 2,848,000
Accounts receivable		
Trade	14,384,000	13,066,000
Income taxes	1,626,000	1,773,000
Other	1,094,000	902,000
Inventories (note 3)	18,116,000	24,537,000
Insurance and other prepaid items	288,000	341,000
	<u>43,462,000</u>	<u>43,467,000</u>
Fixed (note 4)		
Property, plant and equipment	137,960,000	117,372,000
Less accumulated depreciation	63,941,000	55,150,000
	<u>74,019,000</u>	<u>62,222,000</u>
Unamortized development costs	22,966,000	17,882,000
	<u>96,985,000</u>	<u>80,104,000</u>
Other		
Employee housing and other loans	2,084,000	1,064,000
Investments at cost less amounts written off (note 5)	304,000	64,000
Patents at cost less amounts written off	558,000	565,000
	<u>2,946,000</u>	<u>1,693,000</u>
	<u>\$143,393,000</u>	<u>\$125,264,000</u>

The accompanying notes are an integral part of the financial statements

Liabilities	1972	1971
Current		
Notes payable	\$ 4,300,000	\$ —
Accounts payable and accrued	11,253,000	9,612,000
First Mortgage Bonds (note 6)	534,000	4,887,000
	<u>16,087,000</u>	<u>14,499,000</u>
First Mortgage Bonds (note 6)	<u>36,333,000</u>	<u>13,196,000</u>
Deferred Income Taxes (note 7)	<u>13,220,000</u>	<u>15,770,000</u>
Minority Interest	<u>23,000</u>	<u>6,000</u>
Shareholders' Equity		
Capital		
Capital stock		
Authorized		
14,000,000 shares par value \$1 per share		
Issued and fully paid		
12,740,000 shares	12,740,000	12,740,000
Contributed surplus		
Net premiums on sale of shares	25,641,000	25,641,000
	<u>38,381,000</u>	<u>38,381,000</u>
Retained Earnings	<u>39,349,000</u>	<u>43,412,000</u>
	<u>77,730,000</u>	<u>81,793,000</u>
Approved by the Board:		
W. E. P. DeRoche, Director		
David D. Thomas, Director		
	<u>\$143,393,000</u>	<u>\$125,264,000</u>



Consolidated Statement of Earnings

for the year ended December 31, 1972 (with comparative figures for 1971)

	1972	1971
Revenue from sales	\$72,861,000	\$73,958,000
Cost of sales	57,799,000	54,965,000
Gross profit from sales	15,062,000	18,993,000
Research expense	19,000	1,486,000
Outside exploration expense	673,000	846,000
Administrative and selling expense	2,166,000	2,098,000
	2,858,000	4,430,000
Operating profit	12,204,000	14,563,000
Process licensing revenue	421,000	340,000
Rentals and other non-operating revenue	542,000	517,000
Interest income	439,000	630,000
	13,606,000	16,050,000
Interest expense	860,000	1,403,000
Earnings before write-offs and taxes	12,746,000	14,647,000
Depreciation, deferred development and other write-offs	7,563,000	7,852,000
Earnings before taxes and extraordinary items	5,183,000	6,795,000
Income and mining royalty taxes (note 7)		
Current	355,000	(1,395,000)
Deferred	(300,000)	(600,000)
	55,000	(1,995,000)
	5,128,000	8,790,000
Minority interest in net earnings of subsidiaries	37,000	23,000
Net earnings before extraordinary items	5,091,000	8,767,000
Write-off of portion of Lynn Lake plant and development costs, after tax (note 8)	3,425,000	1,270,000
Capital receipt in connection with a long-term contract (note 8)	(641,000)	—
	2,784,000	1,270,000
Net earnings for the year	\$ 2,307,000	\$ 7,497,000
Earnings per share (based on average shares outstanding)		
Before extraordinary items	40¢	73¢
For the year	18¢	62¢

Consolidated Statement of Retained Earnings

for the year ended December 31, 1972 (with comparative figures for 1971)

	1972	1971
Balance at beginning of the year	\$43,412,000	\$43,146,000
Net earnings for the year	2,307,000	7,497,000
	45,719,000	50,643,000
Dividends paid—50¢ per share (1971—60¢)	6,370,000	7,231,000
Balance at end of the year	\$39,349,000	\$43,412,000

The accompanying notes are an integral part of the financial statements

Consolidated Statement of Source and Use of Funds

for the year ended December 31, 1972 (with comparative figures for 1971)

	1972	1971
Funds were obtained from		
Operations for the year		
Net earnings	\$ 2,307,000	\$ 7,497,000
Amounts deducted in arriving at net earnings which did not involve an outlay of funds		
Depreciation, deferred development and other write-offs	12,813,000	9,939,000
Deferred income taxes	(2,550,000)	(1,430,000)
	<u>12,570,000</u>	<u>16,006,000</u>
Proceeds from issue of capital stock	—	16,479,000
Issue of Ruttan Mine Bonds	26,636,000	2,700,000
Capital research grants	256,000	26,000
Other—net	17,000	(16,000)
	<u>\$39,479,000</u>	<u>\$35,195,000</u>
Funds were used for		
Expenditures on capital and deferred assets		
Lynn Lake Mine	\$ 940,000	\$ 1,913,000
Fox Mine	553,000	(112,000)
Ruttan Mine	27,287,000	8,510,000
Employee housing and other loans	1,020,000	171,000
Fort Saskatchewan		
Metal and chemical plants	892,000	810,000
Research and patents	206,000	308,000
Fertilizer marketing warehouses and equipment	65,000	137,000
	<u>30,963,000</u>	<u>11,737,000</u>
Reduction in long-term indebtedness	3,499,000	6,795,000
Dividends	6,370,000	7,231,000
Investments	240,000	(20,000)
	<u>41,072,000</u>	<u>25,743,000</u>
Increase (decrease) in working capital	(1,593,000)	9,452,000
	<u>\$39,479,000</u>	<u>\$35,195,000</u>
Working capital		
Balance at beginning of the year	\$28,968,000	\$19,516,000
Increase (decrease) during the year	(1,593,000)	9,452,000
Balance at end of the year	<u>\$27,375,000</u>	<u>\$28,968,000</u>

Notes to Consolidated Financial Statements

1. Principles of Consolidation

During 1972 the Company adopted the reporting practice of consolidating active subsidiary companies into its financial statements. Previously the investment in such companies was reflected on the equity basis of accounting.

This change in reporting practice has been retroactively reflected in the comparative figures for 1971 and has had no effect on net earnings. The consolidated subsidiaries are Sherritt Fertilizers Inc., Sherritt Gordon Airtransport Limited and Michipicoten Iron Mines Limited.

2. Translation of Foreign Currencies

Transactions in foreign currencies have been translated into Canadian dollars at rates prevailing at the time of such transactions, except that current assets and current liabilities have been translated at the approximate rate of exchange at December 31, 1972.

3. Inventories

	1972	1971
Finished products	\$10,944,000	\$18,900,000
Raw material and material in process	3,346,000	2,042,000
Operating supplies	3,826,000	3,595,000
	<u>\$18,116,000</u>	<u>\$24,537,000</u>

Concentrates sold under contract are valued at net realizable value. Other finished products, raw material, material in process and operating supplies are valued at the lower of average cost and net realizable value.

4. Fixed Assets

	Property, Plant and Equipment			Unamortized Development	Total
	Cost	Accumulated Depreciation	Undepreciated Cost	Costs	
Lynn Lake	\$ 21,345,000	\$17,860,000	\$ 3,485,000	\$ 1,406,000	\$ 4,891,000
Fox Mine	15,991,000	1,706,000	14,285,000	7,760,000	22,045,000
Ruttan Mine (under development)	26,621,000	—	26,621,000	13,513,000	40,134,000
Metal and Chemical	74,003,000	44,375,000	29,628,000	287,000	29,915,000
	<u>\$137,960,000</u>	<u>\$63,941,000</u>	<u>\$74,019,000</u>	<u>\$22,966,000</u>	<u>\$96,985,000</u>

PROPERTY, PLANT AND EQUIPMENT. Depreciation of property, plant and equipment is provided over the estimated useful life of the assets as follows:

Lynn Lake assets, using the unit of production method based on metallic content of the ore.

Fox Mine and Metal and Chemical assets, using an estimated service life of 20 years.

UNAMORTIZED DEVELOPMENT COSTS. Development costs related to a new ore occurrence are deferred until production commences, after which only development costs of a capital nature are deferred, except at Lynn Lake where commencing January 1, 1971 these costs are being written off as incurred. Deferred development costs are written off over the estimated useful life of the mine using the unit of production method based on metallic content of the ore.

5. Investments at Cost less Amounts Written Off

Company	Shares of Common Stock	Percentage Owned	1972	1971
P.T. Pacific Nikkel Indonesia	2,500	10%	\$249,000	\$21,000
Other			55,000	43,000
			<u>\$304,000</u>	<u>\$64,000</u>

There is no quoted market value for shares of P.T. Pacific Nikkel Indonesia.

6. First Mortgage Bonds

	December 31, 1972	
CURRENT	U.S.	Canadian
7½% Fox Mine Bonds due by August 5, 1973	\$ 537,000	\$ 534,000
LONG TERM		
7½% Fox Mine Bonds due 1974 and 1975	6,552,000	6,997,000
Ruttan Mine Series A Bonds—due 1974 to 1983		18,900,000
Series B Bonds—due 1974 to 1980	10,500,000	10,436,000
		<u>36,333,000</u>
TOTAL FIRST MORTGAGE BONDS OUTSTANDING		<u>\$36,867,000</u>

7¼% FOX MINE LOAN AGREEMENT

Repayment – from Fox Mine copper concentrate production but, otherwise, repayable at a minimum of \$3,276,000 U.S. per year during the first five years of Fox Mine production.

RUTTAN MINE LOAN AGREEMENTS

Series A Bonds

Authorized \$27,000,000 (Canadian or U.S. funds) to be issued quarterly to April 1, 1973.

Interest – variable in relation to the bank prime borrowing rate.

Repayment – in forty equal quarterly instalments commencing on January 1, 1974.

Series B Bonds

Authorized \$15,000,000 U.S. funds to be issued quarterly to April 1, 1973.

Interest – 8%.

Repayment – from Ruttan Mine zinc concentrate production but, otherwise, at a minimum rate of \$2,143,000 U.S. per year during the first seven years of Ruttan Mine production.

Under the indentures securing the Bonds the Company may not make a dividend distribution which would reduce working capital below \$9,000,000.

7. Income and Mining Royalty Taxes

Income from Fox Mine is exempt from income taxes until September 30, 1973. Accordingly the provision for income and mining royalty taxes, for the year ended December 31, 1972, reflects this exemption.

The Company follows the tax allocation method of providing for income taxes but continues to reduce taxable income by claiming capital cost allowances and development expenditures in excess of the depreciation and development costs written off against income each year. The difference between the taxes calculated as payable each year and those charged against income on the tax allocation method are accumulated and carried forward in the balance sheet under the heading of Deferred Income Taxes.

8. Extraordinary Items

WRITE-OFF. The cut-off grade of ore at Lynn Lake was increased and more selective mining methods were established. Consequently, a large tonnage previously carried in the ore reserve is no longer considered economic.

The unamortized portion of Lynn Lake plant and development costs attributed to this tonnage amounting to \$5,675,000 has been written off as an extraordinary charge. This extraordinary write-off, after deferred income tax of \$2,250,000, has reduced net earnings by \$3,425,000 (27¢ per share).

CAPITAL RECEIPT. During the year a payment in the amount of \$641,000 (5¢ per share) was received in a transaction involving a long-term contract. No tax has been provided on this extraordinary receipt since it is considered to be not subject to taxes.

9. Commitments and Guarantees

MARINDUQUE MINING & INDUSTRIAL CORPORATION. As part of the financing arrangements for the construction of a nickel mine and refinery by Marinduque in the Philippines, the Company agreed to purchase 642,723 common shares of Marinduque at a price of \$10.58 U.S. per share for \$6,800,000 U.S. payable in four equal instalments in January, June and December, 1973 and March 1974. These shares will represent an interest of approximately 10% in Marinduque. The transaction was completed in January 1973 and in February Marinduque shares, including these shares, were subdivided on a five-for-four basis.

P.T. PACIFIC NIKKEL INDONESIA. The Company has guaranteed its pro rata portion of the bank indebtedness of P.T. Pacific Nikkel Indonesia, a company in which Sherritt holds a 10% interest. P.T. Pacific Nikkel is in the preliminary phase of developing a nickel laterite project in Indonesia. This guarantee amounted to approximately \$1,300,000 U.S. at December 31, 1972.

In addition, the Company is committed to make shareholders loans of \$60,000 U.S. as called for prior to March 15, 1973.

RUTTAN MINE. The Company is committed to bring the Ruttan Mine to open pit production at an estimated cost of \$60,000,000 including working capital. Arrangements have been made to borrow \$42,000,000 of the estimated cost (see note 6). Open pit equipment estimated to cost \$7,500,000 is being leased. The mine is expected to begin production during the second quarter of 1973.

Development of the underground mine during the first seven years of production is estimated to require at least an additional \$20,000,000.

PROVINCE OF MANITOBA. In addition to the payment of normal municipal taxes the Company has agreed to accept assessments of municipal taxes over a period not to exceed 20 years sufficient to amortize certain special expenditures by the Province for the development of Leaf Rapids townsite and for certain expenditures incurred on Provincial Highways 391 and 396. These expenditures will amount to about \$4,750,000. The Company has also agreed that its normal municipal taxes together with the municipal taxes of others in the townsite will, in any event, amortize over 20 years at least \$3,500,000 of other capital expenditures in the townsite.

GUARANTEES. The Company has guaranteed employee mortgage indebtedness in Lynn Lake and Leaf Rapids townsites amounting to approximately \$3,000,000.

10. Remuneration of Directors and Officers

In 1972 the direct remuneration of directors and senior officers of the Company was \$384,000 (1971 – \$344,000).

Auditors' Report

To the Shareholders of Sherritt Gordon Mines Limited :

We have examined the consolidated balance sheet of Sherritt Gordon Mines Limited and its subsidiary companies as at December 31, 1972 and the consolidated statements of earnings, retained earnings and source and use of funds for the year then ended. Our examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances.

In our opinion these consolidated financial statements present fairly the financial position of the companies as at December 31, 1972 and the results of their operations and the source and use of their funds for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Toronto, Ontario, February 16, 1973.

DELOITTE, HASKINS & SELLS,
Chartered Accountants.

Ten Year Record 1963-1972

(figures in thousands)

	1972	1971	1970	1969	1968	1967	1966	1965	1964	1963
Operating Information										
Ore milled – tons										
Lynn Lake	995	1,158	1,090	1,258	1,277	1,071	1,205	1,364	1,363	1,346
Fox Mine	946	1,022	389	—	—	—	—	—	—	—
Production										
Refinery – Nickel – pounds	37,321	33,111	35,918	30,028	29,598	25,080	29,522	25,790	28,208	23,931
– Cobalt – pounds	809	561	803	668	894	764	791	530	594	608
– Fertilizer – tons	372	327	280	281	345	331	303	214	178	167
Recoverable metal in concentrates										
– Copper – pounds	41,474	60,534	30,816	13,238	12,336	10,716	11,384	12,392	13,035	11,978
– Zinc – pounds	8,986	9,605	163	—	—	—	—	—	—	—
Financial Information										
Revenue from sales	\$72,861	73,958	90,889	66,292	56,754	49,375	44,307	39,311	35,361	30,382
Process licensing and other	\$ 1,365	1,464	1,420	932	400	294	55	(100)	(99)	(268)
Costs and expenses	\$61,517	60,798	55,760	41,765	43,699	38,893	36,122	29,397	26,343	23,278
Depreciation and amortization	\$ 7,563	7,852	6,048	6,032	5,807	5,374	4,360	4,332	3,895	4,010
Income and mining royalty taxes	\$ 55	(1,995)	13,000	8,500	3,500	2,410	1,320	2,135	1,922	1,015
Net earnings before extraordinary items	\$ 5,091	8,767	17,501	10,927	4,148	2,992	2,560	3,347	3,102	1,811
– per share	\$.40	.73	1.54	.96	.37	.26	.23	.29	.27	.16
Extraordinary items	\$ 2,784	1,270	1,658	—	—	—	—	—	—	1,504
Net earnings for the year	\$ 2,307	7,497	15,843	10,927	4,148	2,992	2,560	3,347	3,102	307
– per share	\$.18	.62	1.39	.96	.37	.26	.23	.29	.27	.03
Dividends	\$ 6,370	7,231	6,818	4,545	2,841	2,273	2,273	2,270	2,267	2,267
– per share	\$.50	.60	.60	.40	.25	.20	.20	.20	.20	.20
Capital expenditures	\$30,963	11,737	12,795	14,715	9,831	3,006	6,419	17,581	4,088	998
Cash flow from operations	\$12,570	16,006	25,235	19,813	12,012	11,350	8,652	9,707	9,177	6,811
Working capital	\$27,375	28,968	19,365	15,387	12,352	10,468	10,257	11,928	13,372	8,013
Long-term debt	\$36,333	13,196	17,788	20,039	17,556	15,173	21,232	22,394	13,579	10,899
Shareholders' equity	\$77,730	81,793	65,048	56,023	49,641	48,334	47,615	47,274	46,117	45,282
Return on shareholders' equity	3.0%	9.2%	24.4%	19.5%	8.4%	6.2%	5.4%	7.1%	6.7%	0.7%
Ore Reserves										
Lynn Lake – tons	*	10,000	12,600	12,600	12,600	11,900	11,400	12,600	11,012	11,916
– % nickel	*	0.83	0.77	0.77	0.81	0.83	0.84	0.84	0.98	0.96
– % copper	*	0.39	0.38	0.40	0.43	0.46	0.47	0.49	0.59	0.58
Fox Mine – tons	13,300	14,500	13,100	11,300	12,269	12,269	12,269	12,269	12,100	4,600
– % copper	2.01	1.99	1.84	1.96	1.74	1.74	1.74	1.74	1.72	1.78
– % zinc	2.23	2.35	2.70	2.74	2.35	2.35	2.35	2.35	2.28	2.82
Ruttan Mine – tons	51,000	51,000	51,000	12,900	—	—	—	—	—	—
– % copper	1.47	1.47	1.47	1.44	—	—	—	—	—	—
– % zinc	1.61	1.61	1.61	2.61	—	—	—	—	—	—

Lynn Lake ore reserve contains an allowance for dilution for the years 1965 to 1971. *(No reserve published for 1972.)
Fox Mine and Ruttan Mine ore reserves contain no allowance for dilution.



**Mining and
Milling
Division**

**Lynn Lake,
Manitoba, R0B 0W0**

Peter A. Cain	Vice-President, Mining
J. C. Folinsbee	Manager, Lynn-Fox Operations
J. E. Korski	Manager, Ruttan Operations
J. A. MacLellan	Metallurgical Consultant
G. D. Ruttan	Manager, Geology and Exploration

**Metal and
Chemical
Division**

**Fort Saskatchewan,
Alberta, T0B 1P0**

H. M. Bilkey	Manager, Metals and Chemicals
W. R. Middagh	Manager, Production Groups
J. R. Muter	Manager, Engineering and Projects Groups
F. B. Arris	Manager, Administration and Services

**Research and
Development
Division**

**Fort Saskatchewan,
Alberta, T0B 1P0**

D. J. I. Evans	Director
H. Veltman	Assistant Director

**Marketing
Division**

Alan E. Gallie	Vice-President, Marketing, Toronto, Ontario, M5L 1B1
Rex F. Pearce	Manager, Metal Marketing, Toronto, Ontario, M5L 1B1
J. A. Fraser	Manager, Fertilizer Marketing, Edmonton, Alberta, T5J 2E7

**Executive
Office**

**Commerce Court West,
Toronto, Ontario, M5L 1B1**

